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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/023,622	12/17/2001	Jonathan Trostle	50325-0594	3947
29989	7590	01/03/2006		
HICKMAN PALERMO TRUONG & BECKER, LLP 2055 GATEWAY PLACE SUITE 550 SAN JOSE, CA 95110			EXAMINER BERGER, AUBREY H	
			ART UNIT 2134	PAPER NUMBER

DATE MAILED: 01/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Application No.

10/023,622

Applicant(s)

TROSTLE ET AL.

Examiner

Aubrey H. Berger

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The response of 09/16/2005 was received and considered.
2. Claims 1-23 are pending.

### ***Response to Arguments***

3. Applicant's response (page 9, ¶2) amends the claims to overcome the objections to claims 8, 15, 22 and 23 set forth in the previous Office Action and therefore those objections are withdrawn.
4. Applicant's response (page 10, ¶1-page 11, ¶1) argues that the combination of Skene and Ye fails to teach or suggest the claim limitations wherein the secure IPSEC cache is readable only by an Internet protocol (IP) processing layer and that the secure IPSEC cache is searched for an entry that matches the domain name. As applicant suggests Skene teaches a DNS server having a cache that may be searched for an entry based on domain name. However, Skene lacks a secure IP cache. Applicant also suggests that Ye teaches the use of an IP processing layer to search a cache based on a source IP address, a destination IP address, transmission protocol, etc. However, the cache in Ye is not searched for an entry that matches a domain name. Thus, applicant argues neither Skene nor Ye teach searching a secure IPSEC cache that is readable only by an IP processing layer for an entry that matches a domain name, as claimed. Applicant's arguments have been fully considered but they are not persuasive. The proposed modification is such that Skene's client (fig. 1, #112) includes the secure IPSEC cache of Ye. Skene's DNS server

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searches its cache for an entry based on the domain name to resolve an IP address. The resolved IP address is sent to the client and the client IP processing layer uses the resolved IP address to search the secure IPSEC cache for an IPSEC security policy matching the domain name. Therefore, the combination of Skene and Ye teach the limitation wherein the secure IPSEC cache is readable only by an IP processing layer for an entry that matches a domain name.

5. Applicant's response argues that the combination of Skene and Ye teach the IPSEC layer would be on Skene's DNS server (page 11, ¶2) and therefore do not meet the claim limitations of claim 1. However, Skene's client, as modified, includes Ye's IPSEC cache wherein the IPSEC cache is only searchable by IP processing layer of the client operating system.

6. In response to applicant's argument that there is no suggestion to combine the references (page 12, ¶2), the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Skene's client is modified to include the processor, security policy data store, IPSEC cache, and a computer-readable medium of Ye. One of ordinary skill in the art would have been motivated to

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perform such a modification to provide a method for retrieving security policies at an enhanced speed as taught by Ye (col. 2, lines 17-32).

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 6-8, 13-15, and 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Skene et al, hereinafter "Skene", (U.S. Patent Application Publication Number 2001/0052016) in view of Ye (U.S. Patent Number 6,772,348).

Regarding claim 1, Skene discloses a computer system providing Internet protocol security without secure domain name resolution, the system comprising: a local domain name service (DNS) server (Fig. 1, #110). Skene also discloses that a local DNS receives request messages including a domain name, after which the local DNS cache is searched to match the domain name (Fig. 4), but Skene lacks an IPSEC cache. However, Ye discloses a server (Col. 4, lines 8-14) communicatively connected to a processor/host computer (Fig. 2, #70), that includes a secure Internet security protocol (IPSEC) cache/cache table (Fig. 2, #120), wherein the secure IPSEC cache/cache table, is readable only by an

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system that controls execution of an application program by the processor/host computer, (Col. 5, lines 50-54), a security policy data store/policy agent (Fig. 2, #90), that is communicatively coupled to the IP processing layer/IPSEC driver, a computer-readable medium accessible to the processor/host computer, and comprising one or more sequences of instructions which, when executed by the processor/host computer, cause the processor/host computer, to carry out the steps of: receiving a message/incoming packet (Fig. 4, #84), generated as a result of execution of the application program that contains a domain name (Fig. 6, #160), searching the secure IPSEC cache/cache table, for an entry that matches the domain name (Fig. 6, #164), querying the security policy data store/policy agent, for an IPSEC policy/SA (Security Association) (Fig. 4, #136), matching the domain name (Fig. 6, #166), applying the IPSEC policy/SA, to the message/incoming packet, (Fig. 6, #178), and purging the matching entry from the cache (Fig. 6, #180), wherein the secure IPSEC cache/cache table, comprises a plurality of cache entries (Fig. 4, #124). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Skene's client (fig. 1, #112), to include a processor, security policy data store, IPSEC cache, and a computer-readable medium as described by Ye. One of ordinary skill in the art would have been motivated to perform such a modification to provide a method for retrieving security policies at an enhanced speed as taught by Ye (col. 2, lines 17-32).

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Regarding claim 6, Skene as modified above, discloses a computer system as recited in claim 1, further comprising the step of querying the security policy database/policy-agent, for an IPSEC policy/SA, based on an IP address (Ye, Col. 2, lines 26-32 & Col. 7, lines 5-9). The invention of Ye discloses a system that derives an index value based on a packet's IP address (Ye, Col. 7, lines 5-9). The index value is used to search for a matching SA from the cache table (Ye, Col. 7, ¶5 to Col. 8, ¶1).

Regarding claim 7, Skene as modified above, discloses a computer system as recited in claim 1, further comprising the steps of: receiving a request to resolve a DNS name into network addresses/IP address, resolving the DNS name using the local DNS server (Fig. 4, #202), resulting in generating one or more network addresses/IP addresses, corresponding to the DNS name, determining identifier information/filter flag, that uniquely associates the request with a particular application process or execution time/communication stream, and storing the DNS name, the network addresses/IP addresses, and the identifier information/filter flag, as an entry in the secure IPSEC cache/cache table, (Col. 7, lines 9-36).

Claim 8 is substantially equivalent to claim 1 and therefore rejected under similar rational.

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Claims 13-14 are substantially equivalent to claims 6-7 and therefore rejected under similar rational.

Regarding claims 15 and 22, Skene as modified above, discloses a computer-readable medium carrying one or more sequences of instructions for providing Internet protocol security without secure domain name resolution, which instructions, when executed by one or more processors/host computer, cause the one or more processors/host computer, to carry out the steps of: receiving a message/incoming packet, generated as a result of execution of an application program/communication stream, and that contains a domain name (Fig. 4, #202), searching a secure Internet security protocol (IPSEC) cache/cache table, for an entry that matches the domain name (Fig. 4, #203), wherein the secure IPSEC cache/cache table, is communicatively coupled to a local domain name service (DNS) server (Fig. 1, #110), and wherein the secure IPSEC cache/cache table, is readable only by an Internet protocol (IP) processing layer/IPSEC driver, of an operating system that controls execution of the application program/communication stream, querying a security policy data store/policy agent, that is communicatively coupled to the IP processing layer/IPSEC driver, for an IPSEC policy/SA, matching the domain name (Ye, Fig. 6, #166), applying the IPSEC policy/SA, to the message/incoming packet, and purging the matching entry from the cache (Ye, Fig. 6, #180).



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Claims 20-21 are substantially equivalent to claims 6-7 and therefore rejected under similar rationale.

Regarding claim 23, Skene as modified above, discloses an apparatus for providing Internet protocol security, without secure domain name resolution, for messages that are carried by a packet-switched data network (Ye, Fig. 2), comprising: a network interface that is coupled to the data network for receiving one or more packet flows therefrom (Ye, Fig. 2, #84), a processor/host computer, one or more stored sequences of instructions which (Ye, Col. 3, lines 2-4), when executed by the processor/host computer, cause the processor/host computer, to carry out the steps of: receiving a message/incoming packet, generated as a result of execution of an application program/communication stream, and that contains a domain name (Page 4, Col. 1, lines 17-20), searching a secure Internet security protocol (IPSEC) cache/cache table, for an entry that matches the domain name (Ye, Fig. 6, #164), wherein the secure IPSEC cache/cache table, is communicatively coupled to a local domain name service (DNS) server (Fig. 1, #110), and wherein the secure IPSEC cache/cache table, is readable only by an Internet protocol (IP) processing layer/IPSEC driver, of an operating system that controls execution of the application program, (Ye, Col. 5, lines 50-54), querying a security policy data store/policy agent, that is communicatively coupled to the IP processing layer/IPSEC driver, for an IPSEC policy, matching the domain name (Ye, Fig. 6, #166), applying the IPSEC policy/SA to the message/incoming packet (Ye, Fig. 6, #178), and purging the matching entry

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from the cache (Ye, Fig. 6, #180).

7. Claims 2-5, 9-12, and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Skene as modified by Ye as applied to claim 1 above, and further in view of Dixon et al, hereinafter "Dixon", (U.S. Patent Number 6,697,857).

Regarding claim 2, Skene as modified above discloses a computer system as recited in claim 1. However, Skene as modified above, lacks wherein each cache entry comprises a DNS name. Dixon discloses wherein each cache entry comprises a DNS name (Col. 7, line 1), one or more corresponding IP addresses, and information that uniquely associates the cache entry with a particular application process or execution time (Skene, Col. 6, lines 51-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Skene as modified above, with the device of Dixon in order to include a DNS name in the cache entry because DNS names are text names corresponding to the numeric IP address.

Regarding claims 3 and 4, Skene as modified above, discloses a computer system as recited in claim 2, wherein the step of searching the secure IPSEC cache/cache table, further comprises the step of searching the secure IPSEC cache/cache table, for an entry that matches a process identifier/filter flag (Ye, Fig. 4, #136), of the application program (Ye, Col. 6, lines 56-60), based on the

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information that uniquely associates the cache entry with a particular application process or execution time/communication stream (Ye, Col. 7, ¶3), wherein the information that uniquely associates the cache entry with a particular application process or execution time/communication stream, comprises a process identifier value/filter flag, and a transaction identifier value/index value (Ye, Fig. 6, #162).

Regarding claim 5, Skene as modified above, discloses a computer system as recited in claim 4, wherein the step of searching the secure IPSEC cache/cache table, further comprises the step of searching the secure IPSEC cache/cache table, for an entry that matches a process (Ye, Fig. 6, #168) and transaction (Ye, Fig. 6, #162) associated with the application program/communication stream, based on the process identifier value/filter flag, and transaction identifier value/index value, in the cache.

Claims 9-12 are substantially equivalent to claims 2-5 and therefore rejected under similar rationale.

Claims 16-19 are substantially equivalent to claims 2-5 are therefore rejected under similar rationale.

***Conclusion***

8. Claims 1-23 have been rejected.
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
  - a. United States Patent 6,353,886 is cited for disclosing a DNS server that validates a security policy and implements IPSEC.
  - b. United States Patent 6,253,321 is cited for disclosing a data IPSEC processing system including a policy manager that implements a security protocol based on processing data in packets.
  - c. United States Patent Application Publication 2004/0093434 is cited for disclosing network address translation implemented using IPSEC and a DNS server.
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aubrey H. Berger whose telephone number is (571)272-8155. The examiner can normally be reached on Monday - Thursday, 7:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Morse can be reached on (571)272-3838. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AHB

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David Y. Jung  
Primary Examiner

12/23/06